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COINCIDENCE OF PHEROMONE HYDROLYTIC ACTIVITY WITH SEXUAL MATURITY IN THE CABBAGE LOOPER MOTH, TRICHOPLUSIA NI (HÜBNER).
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Measurement of pheromone catabolism during late pupal and throughout adult development indicated a striking increase in pheromone degradative activity in the antenna 2-3 days after emergence. This increase in activity coincides with the age of the moth at which a maximal EAG response occurs as reported by other investigators. The enzymes primarily responsible for pheromone catabolism in the antennae are membrane-bound and probably serve to clear the pheromone from the receptor membrane after transduction. Pheromone-degrading enzymes were also found on the external surfaces of the legs and other body parts but hydrolyze the pheromone less rapidly than the antennal enzymes. The cuticular enzymes probably serve to prevent a buildup of pheromone molecules in these regions which might otherwise desorb and interfere with the insect's chemical communication system.